Professional Development of Christian Education Teachers Based on Scientific Writing Products to Improve Learning Quality and Career Improvement Assisted Module

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ABSTRACT

Research and publication of scientific papers become the main problems in the professional development of teachers. This aims of this research is to develop sustainable professional teacher through research product-based training models and the publication of scientific papers. It analyses the need for a training management model that can increase the professionalism of Christian education subject teachers who are civil servants to produce scientific papers. This research is using qualitative methods with a Research and Development model approach. The data analysis technique used the Mann-Whitney U test technique. Sources of training data are primary data and secondary data. Primary data was obtained from the interview process of all training participants, and secondary data was obtained based on the analysis of the training module directory, training directory and examples of training product administrators. The results showed the validity level of the training module was in a good category (72%), the results of scientific papers using the IHT module are higher than before using the training module; the product of scientific papers produced by the teacher has met the requirements for promotion; the resulting training product in the form of scientific papers is useful for improving school performance and teacher motivation for higher careers.

1. INTRODUCTION

Teachers individually and with their profession must be part of the learning organization. This can be done through their conscious, voluntary involvement, and engaging in various learning activities to develop their professionalism. The implementation of Continuous Professional Development (CPD) activities is expected to produce professional teachers, not only having broad knowledge/insight, but also...
having a mature personality. Through the CPD activities, professional teachers have not only strong in thinking, but who also have a mature, strong and balanced personality (Darling-Hammond, 2006; Vries et al., 2013). This CPD strives to improve their talents, social skills, and information related to their job and career, among other things (Osie et al., 2019; Syariifah et al., 2019). This activity was developed on the basis of teacher performance profiles as a manifestation of the results of Teacher Performance Appraisals supported by self-evaluation results (Dudzinski et al., 2000; Gore et al., 2017). Based on the Sustainable Professional Development policy, teachers are required to have competence in order to be able to make scientific papers, who are expected to be able to support their professional duties (Brandisauskiene & Cesnavigiene, 2021; Carr, 2005). Basic knowledge of scientific writing, the ability to use written language properly and correctly in accordance with applicable principles, broad insight into education, teaching, guidance, and counseling, knowledge of research methods by studying research books, reading the results of other people's research, discussing with peers, and mastering scientific writing are some of the competencies that should be developed so that teachers can produce scientific writings (Brandisauskiene & Cesnavigiene, 2021; Dunlosky, 2013).

Managing human resources in educational organizations involves everyone, and this requires a lot of time, the ability to manage teachers, create policies and practices that can be used in the face of global competition (Brandisauskiene & Cesnavigiene, 2021; Hilmi, 2013). This problem is related to policy and personnel management such as planning, recruitment, appointment and coaching, development management, courage and the ability to provide guidance to those in accordance with modern science and technology developments describes five development models for educators (Dunlosky, 2013; Piwowarsulej, 2021). The development model that is considered the most effective of the five is the training model through In-House Training (IHT). Why is IHT considered the right place in fostering teacher professionalism? One of the schools is a school-based IHT method by involving all citizens, both educators and education staff. The contents of the material presented are also school-based, meaning that the training materials are based on the real conditions faced by schools in their daily lives. This method is also in line with the results of research that state activities that are teacher professional development need to be contextualized or based on teachers' daily problems (Syah et al., 2022). Other researchers also found that the most effective forms of professional development were those based in schools and related to the daily activities of teachers and students (Ganser, 2015). Teachers need to experience the process of learning, collaboration, and application to the activities they are currently engaged in, accompanied by school and classroom-based environmental support, to be able to incorporate new behaviors into teacher teaching practices (Danim, 2012; Qurbani, 2017).

Researches related to the professional development of educators include (Hilmi, 2013; Suhandi Astuti, Slameto, 2017). These studies generally examine various variables that affect the performance of teaching staff. One of Qurbani's research shows that there is no equal competence among the teaching staff. In order to ensure that there is an equal distribution of the quality of high professional competence of educators, Qurbani proposes, for educators to take part in trainings related to continuous improvement of the profession itself (Danim, 2012; Qurbani, 2017). Of all the studies above, none of these have used the continuous teacher professional development variable that is correlated with the teacher's efforts to produce scientific papers that can be accepted for publication in national scientific journals, especially in the context of teachers of Christian religious education subjects. What distinguishes this research from previous research, this research is directed at developing models, especially the IHT module development model to improve teacher competence in producing scientific writing products. Previous study suggests that the training manual in teacher professional development (which can be compiled in the form of modules) is very useful for developing teacher competence in improving their performance (Rahim & Hulukati, 2021). IHT is a training program that is held in its own place, as an effort to improve teacher competence, in carrying out their work by optimizing existing potentials (Danim, 2012; Suhandi Astuti, Slameto, 2017; Supriyanto & Ekowati, 2019). One effort that can be used to overcome this problem is to carry out activities such as IHT. Through IHT activities, teachers will be provided with knowledge about writing techniques that are good and in accordance with the standards of scientific work which will later become provisions in producing scientific papers. One of the techniques that can be presented in writing scientific papers through IHT is modeling techniques. This technical pattern, namely the teacher is faced with concrete examples that can be applied through observation, systematic imitation of writing, and modification according to the problems raised in scientific papers made (Baharuddin & Kanada, 2017; Mansyur & Akidah, 2018).

The empirical results mentioned the ability to improve the quality of competency and teacher performance in the field of research and publication of scientific papers requires the development and management of teacher resources in a systematic, systemic, integrated and quality manner (Friedman & Phillips, 2004; Simanjuntak, 2021). If this is allowed to drag on, it will be detrimental to improving the
quality of education has written extensively on the topic of sustainable professional development (Elloitt & Barnett, 2014; Friedman & Phillips, 2004). Studies by previous studies show that the role of leaders is an important element in bringing about change and the success of teacher performance in an educational institution (Cole, 2006; King, 2011). There are at least three challenges, namely humans, management and money (Z. J. M. Ngelow & Lady Paula, 2015; Taştan et al., 2018). The quality management system for integrated teaching staff in the world of education has several key points, namely: continuous improvement, quality assurance, change of culture, upside-down organization and keeping close to the customer. There are things that need to be considered in implementing these principles, namely: continuous improvement, quality assurance, change of culture, and upside-down-organization.

The Christian Religious Education Subject Teacher in Bandung sees scientific writing as a very urgent need for improving teacher quality and promotion of functional positions as well as ranks and class of teachers' rooms. Therefore, the professional quality of Christian religious education teachers in the city of Bandung in the field of research and publication of scientific papers needs to be continuously developed in accordance with the quality demands of the school. Based on the findings of problems in the field related to the performance of the scientific papers of Christian religious education teachers in the city of Bandung, the researcher are interesting to conduct this research in order to develop sustainable professional teacher through research product-based training models and the publication of scientific papers.

2. METHOD

This study attempts to respond to the above-mentioned results of teacher issues in the field of Christian education in Bandung. To address the teacher’s concerns, the researcher devised a training model for instructors based on Research and Development (R&D) design, which included ten stages (Gall et al., 1996; Gustiani, 2019). The design stage or model design that have been carried out by researchers are as follows: preparation of the module framework, systematic determination, planning evaluation tools, preparation of manual design, and compilation of assessment instrument designs. This research was conducted in 17 public schools in the city of Bandung, Indonesia, involving 35 teachers of Christian religious education subjects. They are members of the organization of teachers of Christian religious education subjects which they have formed for 8 years. The 35 teachers in the field of Christian religious education who were involved in this study were teachers who had teaching experience for 15 years and over. To examine the model development needs, the findings of a preliminary research utilizing interview tools, and a review of teacher performance documents from 2019 to 2021. The research procedure was carried out in three stages, The stages is show in Figure 1.

![Figure 1](imageurl)

**Figure 1.** Stages of IHT Development of Christian Religious Education Teachers

After the training model has been completed with the guidelines, then a validation test is carried out. This validation test aims to determine the strengths and weaknesses of the conceptual model according
to the experts, the accuracy of the theory used, so as to obtain the validity of its contents. This validation involves three validators consisting of 1 training model expert, 1 research material expert and scientific publications. Analysis of the data on the validity of the model using a category descriptive analysis technique and in a limited field trial, testing using the Mann Whitney U test technique was carried out by calculating the difference in the mean of the pretest and posttest results. However, before analyzing the data, the normality test and the Gain Score were first carried out.

3. RESULT AND DISCUSSION

Result
The results of the design stage or model design that have been carried out by researchers are as follows: preparation of the module framework, systematic determination, planning evaluation tools, preparation of manual design, and compilation of assessment instrument designs. Schematically, the IHT module for Christian religious education subject teachers is outlined as illustrated in Figure 2.

Figure 2. Hypothetical Model of IHT

Based on Figure 2, the steps for developing a training model refer to the first formulation of the problem, which is about how to develop a product-based training model. The steps for developing a product training model are: (1) conducting a performance analysis and needs analysis; (2) create a planning model; (3) developing a complete training model with media and evaluation instruments; (4) implementing the training model; and (5) conduct an evaluation to determine the competence of the trainees. Training material experts and media experts provide the following assessments: for training model design experts, the average percentage score of expert assessments of the program map aspects and product training scenarios by experts shows that the average percentage is 89% for the program map aspects and 86% for the training scenarios. This means that the program map and training scenario as a product of this product-
based training module development are of a very high quality. Experts in research training materials and scientific publications gave a score of 72%. Based on the category and expert test, this percentage number data shows that the results of this assessment are in the high category. This means that the quality of the training material as a product for the development of this product-based training module is in the very high category. The results of model validation by experts show that the average percentage is 78% for the display aspect, 100% for the access aspect, 73% for the interaction aspect, 66% for the design aspect of the training material, and 80% for the control aspect. It may be inferred that the training module is good based on the findings of the study of respondents' replies to the training module. The favorable replies of each responder to indicators like Training Materials, Instructors, Facilities, Participant Selection, Capacity Building, Skills and Knowledge, Discipline, Participation, Work Results, Complaints, and Attendance demonstrate this. The average value is 4 and it falls between the ranges of 3.40 and 4.19. The researcher asks 13 questions to the 35 people who filled out the questionnaire. Table 1 shows the findings of the processed data about respondents’ replies to research training and scientific publications.

Table 1. Analysis of Respondents’ Statements Regarding the Training Program

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>QA</th>
<th>D</th>
<th>TD</th>
<th>Total</th>
<th>Average</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>The material given in the training is very clear and in accordance with what I need on the job</td>
<td>8</td>
<td>18</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>124</td>
<td>4.13</td>
<td>B</td>
</tr>
<tr>
<td>The explanation of the instructor/trainer was clear and really helped me in understanding the material</td>
<td>7</td>
<td>22</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>126</td>
<td>4.20</td>
<td>SB</td>
</tr>
<tr>
<td>The training materials (books, handouts, brochures) provided in the training really helped me understand the material</td>
<td>9</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>128</td>
<td>4.27</td>
<td>SB</td>
</tr>
<tr>
<td>Training facilities &amp; places are comfortable and support the implementation of training activities properly</td>
<td>6</td>
<td>21</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>123</td>
<td>4.10</td>
<td>B</td>
</tr>
<tr>
<td>The criteria for selecting participants are clear and fair</td>
<td>2</td>
<td>14</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>107</td>
<td>3.57</td>
<td>B</td>
</tr>
<tr>
<td>The training methods (seminars, lectures, etc.) that I participated in were in accordance with the training material</td>
<td>3</td>
<td>22</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>118</td>
<td>3.93</td>
<td>B</td>
</tr>
<tr>
<td>Education and training really helped me improve my abilities</td>
<td>4</td>
<td>23</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>121</td>
<td>4.03</td>
<td>B</td>
</tr>
<tr>
<td>I get additional useful knowledge from the training I attended</td>
<td>9</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>129</td>
<td>4.30</td>
<td>SB</td>
</tr>
<tr>
<td>I am more disciplined in my daily work activities after attending the training</td>
<td>4</td>
<td>17</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>114</td>
<td>3.80</td>
<td>B</td>
</tr>
<tr>
<td>I am more motivated to participate in company activities after attending the training</td>
<td>4</td>
<td>22</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>120</td>
<td>4.00</td>
<td>B</td>
</tr>
<tr>
<td>The work on my part is better after the education and training</td>
<td>4</td>
<td>20</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>118</td>
<td>3.93</td>
<td>B</td>
</tr>
<tr>
<td>Complaints on my part lessened after attending education and training</td>
<td>2</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>0</td>
<td>103</td>
<td>3.43</td>
<td>B</td>
</tr>
<tr>
<td>The teacher attendance rate in my part was better after attending the training</td>
<td>2</td>
<td>19</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>112</td>
<td>3.73</td>
<td>B</td>
</tr>
<tr>
<td>Average</td>
<td>51.00</td>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SA= strongly agree; A = agree; QA = quite agree; D= disagree; TD= totally disagree

Based on Table 1, the findings of the training model experiment showed that the average pretest data was 65 and the posttest data was 81. The significance of the therapy may be shown in the Mann Whitney U Test, where the U count is 6.00; p = 0.017 (0.017 = 0.050), indicating that the level of teacher performance after attending the program was considerably greater than before. Respondents’ responses regarding the entire training program were good. This can be seen from the positive responses of each respondent to indicators such as Training Materials, Instructors, Training Materials, Facilities, Selection of Participants, Capacity Building, Skills and Knowledge, Discipline, Participation, Work Results, Complaints,
and Attendance. From the results of the analysis of respondents’ responses regarding the research training module and scientific publications, it can be concluded that the training module can be said to be good. This can be seen from the positive responses of each respondent to indicators such as Training Materials, Instructors, Training Materials, Facilities, Selection of Participants, Capacity Building, Skills and Knowledge, Discipline, Participation, Work Results, Complaints, and Attendance. The average value is 4 and entered in the interval 3.40 - 4.19. The researcher gives 13 questions to the questionnaire distributed to 35 respondents. The results of the research regarding respondents’ responses to research training and scientific publications indicate that the training program can be said to be good. This can be seen from the positive responses of each respondent to indicators such as Training Materials, Instructors, Training Materials, Facilities, Selection of Participants, Capacity Building, Skills and Knowledge, Discipline, Participation, Work Results, Complaints, and Attendance. - Average 4 and enter in the interval 3.40 - 4.19.

IHT module has a higher impact on the training outcomes of training participants. The contribution of the andragogy component in synergy makes this product-based training model effective in increasing the competency of the training participants’ results. Furthermore, the results of this training have succeeded in improving the performance of teachers in Christian religious education subjects and subsequently producing products in the field of scientific writing that have been successfully published in national journals and accredited national journals. Teachers of Christian Religious Education who engage in high and quality research have a favorable impact on the quality of teaching, learning, and education. "After participating in the program, I discovered that my teaching approaches have not altered so far," remarked one participant (PAK.MGMP.02.03). Following the course, I came across the term "newness." "The study that I have generated has been able to update teaching materials that are in accordance with the methodologies and learning media that I have tried in my classroom," said respondent (PAK.MGMP.02.18). "This model is extremely nice!" said a participant (PAK.MGMP.K.02). I hope that all Christian Religious Education Subjects instructors would embrace this approach as a resource for self-improvement and school improvement." Furthermore, IHT has been able to address the demands of promotion and class of teachers in the future by doing research and publishing scientific works created by instructors.

Discussion

According to the findings of the lesson, instructors of Christian religious education courses require extensive training in order to generate scientific compositions that will increase the quality of their students' learning and help them advance in their careers. A crucial step is to ensure that the training is a need for instructors and schools, rather than a frivolous pastime (Hilmi, 2013; Qurbani, 2017). This identification is in line with previous study who believes that before doing training, it is necessary to identify training requirements inside the company in order to achieve the intended outcomes (Firdousi, 2011). The analysis of organizational requirements is the first stage in building training programs, and identifying needs is a key and extremely significant component of the overall training process (Dick et al., 2009; Hariandja and Hardiwat, 2016). According to the findings of this study of the scientific writing products created after the instructors took part in the IHT, the scientific papers produced by the teachers above 70%, with a score of 72 percent. The outcomes of this study show that the primary goal of providing scientific writing product-based training to teachers of Christian religious education topics in Bandung is to increase their ability to write scientific articles. This training must be completed in order for the theory and practice that they have learnt to be effectively used in the production of scientific publications (Ozue et al., 2016; Suarsana & Mahayukti, 2013). Teachers of Christian religious education topics have increased numerous cognitive skills and language processes, such as strong memory and diverse semantic and syntactic understanding, using this module-assisted training (Basak et al., 2020; Sukmayadi et al., 2011). These processes are involved in every step of the writing process, including planning, where writers generate and organize their ideas; revising and making changes to correct them; and editing, where teachers correct spelling, grammatical, and mechanical errors (Armstrong & Taylor, 2020; De La Paz & Graham, 2002; Donovan et al., 2013; Xanthis et al., 2021).

The form of strategies for increasing the ability of teachers in Christian religious education subjects is reflected in the programs that have been made, providing facilities, and budget allocation (Koecher et al., 2013; Whitney et al., 2014). In addition, the forms of strategy that are carried out can be classified as specific strategies. This is in accordance with opinion of previous research state that a special strategy is a strategy in the form of special actions to achieve goals (Semuel et al., 2017). Through support from institutions, assistance from competent and widely experienced presenters, facilitators who constantly observe the products produced by participants, and modules that are suitable for adult learning, the time required can be predicted and determined (Wardani et al., 2020; Whitney et al., 2012). Curriculum development begins with determining the needs of participants through a diagnosis of various deficiencies and differences in participants’ backgrounds. Teachers identify problems, conditions, difficulties and needs of participants in
a learning process (Dadds, 2014; Wardani et al., 2020). Previous study said that getting a qualified teacher depends on the quality of the teacher’s teacher (Kosnik et al., 2016). The importance of teachers who meet the requirements so that development goals are achieved (Mortimore et al., 2014; Tepu Sitepu, 2019). Good teachers are those who have technical skills, communication skills, personality history, social skills, technical components, and emotional stability. The facilitators were evaluated by the training participants through nine assessment indicators with a sufficient average score (Avidov-Ungar, 2016; Chen et al., 2014).

The advantage of this module-based IHT management model is that it is carried out in a workplace location and uses a flexible approach according to the needs of the teachers so that in its implementation the teacher feels more comfortable and able to be actively involved in the training process (Chen et al., 2014; Mortimore et al., 2014; Schrum & Levin, 2013). This reason is in line with the results of research which shows that effective training is based on constructivism, not on a transmission-oriented model which is able to involve active learners (Avidov-Ungar, 2016; Friedman & Phillips, 2004) and is directly related to concrete teaching tasks, assessments, observations and reflections performed by teachers on a daily basis (Dadds, 2014; Darling-Hammond & McLaughlin, 2011). The contributions and products produced by the teachers in the concepts and practices described above are what distinguishes relevant research results from previous research results. The findings of previous study are limited to the role of In-House Training in increasing the competence of Civics teachers (Hendriks & Scheerens, 2013; Suhandi Astuti, Slameto, 2017). The findings of other research are limited to the benefits of In-House Training in improving the ability of teachers to make power points for learning media (Kim Halford et al., 2004; Kristyanti, 2021; Z. J. Ngelow, 2014). Moreover there are also study are limited to the importance of training programs to achieve organizational and individual goals (Barnett et al., 2001; Hegarty, 2014). Further study is expected on how to incorporate technology into scientific writing, with the inclusion of technology being valuable for training teachers in order to generate excellent, quality scientific publications and make a genuine contribution to improving the quality of teaching and improve teachers’ careers.

4. CONCLUSION

This research draws the conclusion that the application of IHT module development to improve research competence and publication of scientific papers among teachers of Christian religious education subjects in the city of Bandung is good. This is based on positive responses from teachers who have attended the training. The results of research and publication of scientific papers of Christian religious education subject teachers use the IHT module higher than before using the training module. This IHT module teaches not only materials related to job performance, but also how teachers can produce scientific writing products that are suitable for publication in accredited national journals. More importantly, this IHT Module provides more practice than theory, so that the training participants will become skilled at producing quality Christian religious education lessons at their disposal. Training facilitated with modules that are able to deliver participants to produce certain products as desired are very beneficial not only for schools, but also for the teachers themselves. For schools this training can improve organizational performance, for teachers to increase motivation for careers until they reach the highest rank, class and position. The product of scientific writing as a result of teacher performance in training using this IHT module for each Christian religious education subject teacher is sufficient for the needs of promotion and teacher class.

5. REFERENCES


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Hilm


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